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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,822	03/24/2004	Jathan D. Edwards	10421US01	4335

7590 03/18/2008  
Attention: Eric D. Levinson  
Imation Corp.  
Legal Affairs  
P.O. Box 64898  
St. Paul, MN 55164-0898

EXAMINER
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MAZUMDAR, SONYA

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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03/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/807,822	<b>Applicant(s)</b> EDWARDS, JATHAN D.	
	<b>Examiner</b> SONYA MAZUMDAR	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004 and 21 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-20 is/are rejected.
- 7) ☒ Claim(s) 9 and 17-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/12/2004</u> .   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17 through 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 17 recites the limitation "the interference pattern" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

5. Claims 12 and 13 are rejected under 35 U.S.C. 102(b) as being unpatentable by Ohtomo et al. (US 5,763,037)

With respect to claim 12, Ohtomo et al. teach a mastering process where a set of pits or grooves, forming an interference pattern, are to be made on a photosensitive layer of an optical disc. Laser beams are generated from a laser light source and are emitted onto the photosensitive layer, whereby a latent image corresponding to an informational signal from a light modulator is formed (column 1, lines 35-41; column 2, lines 17-39; Figures 2a-2c).

With respect to claim 13, Ohtomo et al. teach creating a one-dimensional latent image of focused laser spots, from looking at Figure 2c.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1, 3, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtomo et al. (US 5,763,037)

With respect to claims 1 and 3, Ohtomo et al. teach a mastering process where a set of spaced pits or grooves are to be made on a photosensitive layer of an optical disc. Laser beams are generated from a laser light source and are emitted onto the photosensitive layer, whereby a latent image corresponding to an informational signal from a light modulator is formed (column 1, lines 35-41; column 2, lines 17-39; Figures 2a-2c).

Although Ohtomo et al. do not specifically teach creating equally spaced pits or grooves, it would have been obvious to do so in this case as desired, according to various rigorous processing characteristics that are required, i.e. accurate transfer property of

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the information signal portion, transfer property of uneven portions based on information signals of the stamper, and uniformity of dimensional accuracy or thickness are required (column 4, lines 9-29).

With respect to claim 4, Ohtomo et al. teach creating a one-dimensional latent image of focused laser spots, from looking at Figure 2c.

9. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtomo et al. as applied to claim 1 above, and further in view of Urbach (US 3,560,205).

The teachings of claim 1 are as described above.

With respect to claim 2, Ohtomo et al. do not specifically teach creating a plurality of focused laser spots using a plurality of different lasers. However, it would have been obvious to do so, as Urbach et al. teach separating a laser beam (13) coming from a single laser source (11) to irradiate a surface (16) at two different angles, to create an array of deformation patterns (column 3, lines 37-55; Figure 1).

With respect to claim 5, Ohtomo et al. in view of Urbach teaches forming a two-dimensional images or patterns (Urbach: column 1, lines 65-69).

10. Claims 6, 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtomo et al. as applied to claim 1 above, and further in view of Peeters (US 4,394,661).

The teachings of claim 1 are as described above.

With respect to claims 6 and 7, Ohtomo et al. do not specifically teach translating a plurality of pits or grooves by an integer amount of tracks and illuminating a photoresist layer a plurality of times. However, it would have been obvious to do so, as Peeters teaches pulsing a laser to form a desired integer number of tracks, as a

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preferable method in recording digital information (Peeters: column 3, lines 7-10 and 33-57; column 4, lines 22-41).

With respect to claim 8, Ohtomo et al. in view of Peeters teach repeating the translating a plurality of pits or grooves by an integer amount of tracks and illuminating a photoresist layer a plurality of times (Peeters: column 4, lines 22-55).

With respect to claims 10 and 11, Ohtomo et al. teach defining a track width equal or less than the distance between formed pits or grooves (abstract; column 4, lines 20-29).

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtomo et al. as applied to claim 12 above, and further in view of Urbach (US 3,560,205).

The teachings of claim 12 are as described above.

Ohtomo et al. do not specifically teach creating a plurality of focused laser spots using a plurality of different lasers. However, it would have been obvious to do so, as Urbach et al. teach separating a laser beam (13) coming from a single laser source (11) to irradiate a surface (16) at two different angles, to a two-dimensional images or patterns (Urbach: column 1, lines 65-69; column 3, lines 37-55; Figure 1).

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtomo et al. as applied to claim 12 above, and further in view of Nakane (US 6,324,139).

The teachings of claim 12 are as described above.

Ohtomo et al. do not specifically teach using a prism to create an interference pattern, or pattern of pits or grooves. However, it would have been obvious to do so, as Nakane teaches using a prism (103) in an optical system to change the direction of a

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beam from a laser source (101) if desired (Nakane: column 1, line 58 - column 2, line 8; Figure 1).

13. Claims 16, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtomo et al. as applied to claim 12 above, and further in view of Peeters (US 4,394,661).

The teachings of claim 12 are as described above.

With respect to claims 16 and 17, Ohtomo et al. do not specifically teach translating a plurality of pits or grooves by an integer amount of tracks and illuminating a photoresist layer a plurality of times. However, it would have been obvious to do so, as Peeters teaches pulsing a laser, and repeating if necessary, to form a desired integer number of tracks, as a preferable method in recording digital information (Peeters: column 3, lines 7-10 and 33-57; column 4, lines 22-41).

With respect to claims 19 and 20, Ohtomo et al. teach defining a track width equal or less than the distance between formed pits or grooves (abstract; column 4, lines 20-29).

### ***Allowable Subject Matter***

14. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claim 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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There are no teachings found in the prior art of track pitch variations on the master that are less than 5 nanometers.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SONYA MAZUMDAR whose telephone number is (571)272-6019. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SM

/Philip C Tucker/  
Supervisory Patent Examiner, Art Unit 1791